

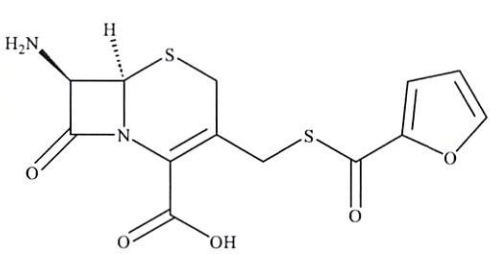


Certificate of Analysis



Certificate No.: 20250619003

Date: June 19, 2025

Retest date: June 12, 2028

Compound Name:	Ceftiofur Impurity 4	
Synonyms:	(6R,7R)-7-amino-3-(((furan-2-carbonyl)thio)methyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid	
TLC Catalogue Number:	C-8613	
CAS Number:	80370-59-8	
Alternate CAS Number:	485798-82-1 (HCl salt)	
Molecular Weight:	340.37	
Molecular Formula:	C ₁₃ H ₁₂ N ₂ O ₅ S ₂	
Source:	TLC Pharmaceutical Standards	
Source Lot No.:	6896-038A2	
Storage Conditions:	Store at 2-8 °C	
Solubility:	DMSO, Alkaline solution	

Test Description	Specifications	Results
Visual Description	Off-white solid	Conforms
Identification		
IR	Conforms to structure	Conforms
MS	Conforms to structure	Conforms
¹ H NMR	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	98.1%
Impurity (HPLC)	RT 1.11, 0.16%; RT 1.25, 0.72%; RT 15.56, 0.35%	
Optical Rotation	N/A	[α] _D ^{25.0} (c=0.62, DMSO): -172.6°
Residual Solvents (NMR)	No residual solvent	
Assay (qNMR)	Not less than 90.0%	91.4%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		06/19/2025
Approved by:	Quality Assurance		06/19/2025

Attachments: Peak Attribution Table, HPLC, IR, MS and NMR spectra.